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Web publishing using MS Word

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Abstract

I was approached by a motorcross club and asked to build a Website to represent their club. The purpose of the website is to promote the club to attract new members, announce up-coming events, show a member list with contact numbers, and provide a page to place pictures of past events. The club has limited funds, therefore they intend to maintain their site themselves and asked if I would show a selected few members the process. I had to find a way to educate club members on how to maintain their web page after I created and published the original website.

This research project will describe my steps involved in selecting the best medium for these particular learners and the instructional development process used to create this project.

Web Publishing Using MS Word

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Table of Contents

Introduction

I was approached by a motorcross club and asked to build a Website to represent their club. The purpose of the website is to promote the club to attract new members, announce up-coming events, show a member list with contact numbers, and provide a page to place pictures of past events. The club has limited funds, therefore they intend to maintain their site themselves and asked if I would show a selected few members the process. I had to find a way to educate club members on how to maintain their web page after I created and published the original website. I decided to create a multimedia tutorial to instruct them on how to become web masters.

A tutorial is a software application-learning tool used to guide the learner through a self-paced lesson plan. The tutorial acts as the instructor, guiding the learner through the presented information (Alessi & Trollip, 2001). A well-designed tutorial should include an assessment that can be used to determine if the performance objectives have been reached by a student (Geiset & Futrell, 1995). McCormack & Jones (1998) suggest that a tutorial should include three distinct parts: a lesson plan, a practice area, and a laboratory. This will allow the learner to exercise what is being taught. It is also important to provide adequate instructions for the use of the tutorial (Lamb & Smith, 1999). By providing explicit directions, the learners will be able to navigate through the tutorial at their own individual learning process.

In addition to navigating through the program at their individual learning pace, the learner can also repeat lessons as necessary, which is why this learning tool works well, especially for non-traditional learners. Lockard & Abrams (2001) proclaim that an additional benefit of using tutorials is to allow the learner to respond to every question

presented which is not the case in a classroom environment. Peck (1997) supports that a tutorial provides a deeper learning and achieves better retention results compared to other training techniques. The intended learners in this project are non-traditional learners with a specific interest described in the following research.

This research project will describe my steps involved in selecting the best medium for these particular learners and the instructional development process used to create this project.

Methodology

The content for the design of tutorial learning will be derived from Alessi & Trollip (2001). In developing the tutorial, I also followed the instructional development process proposed by Dick, Carey, & Carey (2001).

The University of Northern Iowa's library was a great source of references for this project. The key word "Education" began the search and from there the search narrowed down to "Instructional Development". From that technique, a few books on the topic were located. However, what was the most helpful was using the references posted from those books to locate other resource books and authors mentioned in the readings. These authors, along with other theorists, cited throughout this research will contribute to the development of this research project.

Dick, Carey, & Carey (2001) suggest using the Systems Approach model for designing instruction. The model consists of these components:

- Analysis: Content, Learners, Needs and Objectives
- Design: Instructional Strategies and Media Integration
- Evaluation: Evaluation of Learner and Evaluation of Instruction

In addition to this foundational research, additional exploration revealed that this Systems Approach model has been used for some time. It actually started in 1968 where it was first taught in a course at Florida State University. Today this model is still being used by many educators. Students are still being taught how to develop instructional materials that have demonstrated validity and effectiveness with learners. Among the few that are responsible for the interpretations and influence of the working model are: Robert Gagne, Leslie Briggs, Robert Mager, Robert Glaser, and Lee Cronback (Dick, Carey, & Carey, 2001).

The model has a performance component that relays the observable skills the students are responsible to learn and collects data from the students to revise instruction as needed (Dick, Carey, & Carey, 2001). This approach has proven to work well with a tutorial course because of the well-developed components and approach that allows for easy understanding of goals and objectives by students. A simplistic flow of directions and clearly stated outcomes are necessary for the self-directed environment (Gronlund, 2000).

Another method of instructional development is the ASSURE model. The components of this model are:

- Analyze learners
- State objectives
- Select media and materials
- Use materials
- Require leaner performance
- Evaluate and revise (Heinich, Molenda, Russel, & Smaldino, 2000).

Both models share commonalities, for example, placing importance on analyzing the learners. Knowing about the learners drives the instructional development in what media to use and how to present it (Richey, 1992). In the case of the learners from the motorcross club, a tutorial will work well verses a classroom instruction because of the learners' time constraints and diverse locations. While both models would work well for the project, it was decided to use Dick, Carey, & Carey's Systems Approach model.

Using the Systems Approach model, a questionnaire for the learners and club members was created (Appendix A) to get an idea of the current situation and to discover their desired outcomes. Knowing the current and ideal situation gave this developer some idea of how to develop this application to serve the goals and objectives of both the learners and the club members. The following is a Needs Assessment Summary of the results of the questionnaire tool:

Learners

The learners, in this situation, are two volunteers from the club. The volunteers are both adult males with a "craving" for the outdoors and dirt bikes. Currently, the learners keep records of the club meetings, member list, and upcoming events using Microsoft Word. They also send announcements to the local newspaper of up-coming public events, such as swap meets. It is safe to assume the learners are computer literate since both use Microsoft Word already.

It was determined that the ideal situation was to deliver the instruction in the form of a website. The club was looking for a way to maintain the website after the initial publishing. After much research, a tutorial lesson plan was recommended and later approved by all members of the club.

Environment

The current technology environment at the time of the Needs Assessment was a desktop computer in the dining room of one of the volunteers using Microsoft Word to keep records of club meetings and to print out announcements for the newspaper to run for local events. Pictures from past events were kept in photo albums in the home of one club member. Member listings were kept in an electronic address book of the same club member.

It was determined the ideal situation was to teach the learners how to maintain their Website through a tutorial in which they could learn at their own pace in a quiet home environment. This would allow the members to publish the up-coming events, pictures, and member listings on a public forum such as a website. The members could then include their website address in their brochures and business cards to promote their club and events.

Content

The content of this tutorial will lead the learners to using Microsoft Word to create a web site containing: multiple pages with hyperlinks between them, images, and tables. The tutorial would also teach them the procedure for obtaining a folder on a web server and for releasing the site to production with their selected Internet service provider. The learners will have an on-line learning environment that is created through the self-guided tutorial application software.

The ideal situation, according to the motorcross club representative, is to have the above content delivered to them by way of a self-guided tutorial which will allow the learner to work through the exercises at his/her own pace and in the comfort of his/her

own home. This type of learning also promotes a deeper learning because the exercises can be repeated as often as necessary to acquire the concept (McCormack & Jones, 1998). The intent is for the learner to receive as much content as in a workshop situation. This will be assessed at the end of the tutorial application.

Media Resources

The media resources available to the learners are currently in the form of Microsoft Word, the local newspaper to announce events, and word of mouth. This is very limited because these media resources only reach the local community.

The ideal situation, as defined by club members, is to reach out to a national public in hopes of bringing in members from other states. A website would also attract a greater attendance at swap meets. The website could be easily maintained by a few selected club members through the instruction of a tutorial using Microsoft Word. Microsoft Word is the preferred application since it is the common application used by most of the club members.

After interviewing the club members and discovering their skill levels, media availability, and their ideal situation for promoting their club, It was concluded that the application should be developed for learners who have a personal computer with Microsoft Word, are somewhat computer literate, and are assumed to be able to follow computer terminology with ease.

Needs and Objectives

Goal:

Upon completing this tutorial, the learner will have successfully developed a simple web page utilizing the most basic concepts of: tables, graphics, hyperlinks, and alignment concepts.

Objectives:

At the end of this tutorial, the learners will be able to:

- Explain the difference between web publishing, web reporting, and web applications.
- Explain what makes a proposed web page a good candidate for a web publishing solution.
- Be able to use Microsoft Word to create a web site containing:
    - Multiple pages with hyperlinks between them and external links
    - Images
    - Tables
- Complete the procedure for obtaining a folder on a web server and posting the site to their Internet service provider.

Instructional Strategies

The instructional strategy that was used to guide the learners through sequential steps of a lesson plan was in a tutorial format. This allows the learners to navigate through the process at their own pace. They also are allowed to repeat exercises as needed to acquire the knowledge of building a web page.

Instructional Events

Learner will work through exercises 1-4:

- Exercise 1: Getting Started
  - Creating a simple webpage with MS Word
  - Opening index.html in MS Word
  - Creating the title
  - Adding the banner, horizontal rule, and background
  - Opening the webpage in the browser
- Exercise 2: Page Layout
  - Laying out the webpage and adding links
  - Creating and positioning a table
- Exercise 3: Dressing It Up
  - Adding images
  - Adding columns to a table
  - Inserting pictures
  - Making the pictures hyperlinks
  - Merging cells
  - Alignments
- Exercise 4: Releasing To Production
  - Using FTP.

The learner will take a quiz after finishing all the exercises.

The learner will transfer his/her website to their Internet Service Provider.

Select the Media

The media of choice is tutorial application software on a CD. After researching the many other avenues, it seems the best way to deliver instruction to the specific nontraditional learners with time restraints and location barriers on a CD. Tutorial programs should include the following four phases:

- Information is presented or skills are modeled.
- The learner is guided through initial use of the information or skills.
- The learner practices for retention and fluency.
- Learning is assessed. (Alessi & Trollip, 2001).

The Project

The previous phases in developing the tutorial in a sequential order of exercises were followed. The tutorial opens to the first page where the learners can find the goals and objectives of the lesson plan. Each page is clearly marked through the use of banners to help the learners orient themselves within a stable learning environment. The learners navigate through the steps using navigation buttons and the 'next' and 'back' links at the bottom of the pages. The learners follow the directions using two windows that allow the tutorial to occupy the left half of the screen and the working model occupying the right half of the monitor screen. Each exercise builds on the previous exercise until the finished product is achieved through the completion of a web page.

Learner Assessment

A multiple-choice test directly following all the exercises was developed. The questions directly correlate with the objectives and represent the most important information to take away from this instruction.

Haladyna & Roid's (1983) advice on validity recommends that the learner performs the same behavior under the same conditions specified in the learning objective. Based on this approach, the questions came directly from the learning objective to validate the questions.

If a learner answers a question incorrectly, the exam should always allow for the learner to change his/her answer (Alessi & Trollip, 2001). When creating the questions, the developer considered that the learners might want to change their answers and allowed for this in the program. They can change their answers as many times as they want until they click a button at the end of the test for their results at which time a cookie (programmed script) will appear with their results and correct answers.

When determining the length of the test, Gagne, Briggs, & Wagner (1992) suggest the test should take only as long as it takes to deliver the items needed to satisfy the purpose. This tutorial exercise takes approximately two hours to complete, and therefore the test is a short ten-question assessment and includes only the pertinent information. The assessment should not take longer than what it did to complete the exercises.

The developer is seeking mastery levels, so is providing good instructions and holding high standards. By doing this, it will assure the learners the knowledge and confidence to continue on their own. The motorcross club members want the basics to get them started in building web pages. Further expertise will come with practice. As the learners reach their comfort skill level, they will have the confidence to continue and try new techniques.

Evaluation of Instruction

Formative evaluation should take place before the rollout of a new tutorial (Dick, Carey, & Carey, 2001). However, sometimes problems are not caught until certain actions happen in a sequence of steps, causing the application to fumble.

Dick, Carey & Carey (2001) refer to this evolution phase as formative evaluation. The point of the first phase of formative evolution is to locate and eliminate the most apparent errors in the instruction and to gain primary performance suggestions and feedback to the content by learners (Dick, Carey & Carey, 2001). A pilot group should be set up to test the application that will represent the target population.

After developing this tutorial, Nathenson & Henderson's (1989) method for evaluation was used. His method involves two groups; one group will do the initial testing and provide feedback as to what problems they had with the product. Then a second group will test the product after the revisions have been made according to the feedback from the first group.

Revise Instruction

The pilot group's evaluation forms are studied and revisions are made to the instruction to make the tutorial flow perfectly (Hamza & Alhalabi, 1999). My first pilot group provided great feedback and suggestions. The suggestions were considered and corrections made where needed. The tutorial was then given to the second group and from their feedback it was determined that only minor formatting adjustments were needed.

Summative Assessment

Summative evaluation is the overall evaluation of the entire instruction and product. It is not considered part of the design process, therefore this phase should be approached only after the design and revision phases are complete (Dick, Carey & Carey, 2001). The purpose of the summative evaluation is to make conclusions about the overall significance of the product and make recommendations about its implementation.

After completing this tutorial and evaluating the learners, it is apparent the objectives have been successfully met. The goal was for the learners to learn the necessary skills to maintain their website. The original objectives and goals were met according to the feedback from the pilot group.

The learners are a few nontraditional learners and members of a motor cross bike club. After interviewing and assessing them, it was apparent that they were comfortable with Microsoft Word and no basic computer lessons were necessary. They have a specific interest in taking their club on-line to acquire more members and announce upcoming events, along with showing pictures of previous events. The purpose of this tutorial was to teach them sufficient skills to allow them to maintain their own website. The pilot group was proved to acquire these skills.

After the learners worked through the exercises, they were expected to engage in the multiple-choice assessment at the end to the application. The purpose of the assessment was to give them insight about their success in learning the necessary skills. The assessment questions covered the highlights of the course. Only the main points needed to be addressed, since the learners would develop their own techniques as they practiced building web sites on their own. After they completed the assessment, at the

bottom of the page there is a button named "How well did I do?" If they clicked on the button, their score would pop up in another window along with the correct answers to the questions.

The process followed while creating the tutorial was the Systems Approach model of Dick, Carey, & Carey. Recommend changes based on feedback needed to be made to the instruction of the tutorial; for exampling, provide more basic steps. It was then taken granted that the learner would know how to minimize the viewing window of the screen; this became an issue with the pilot group and the instruction was revised accordingly.

Conclusions and Recommendations

This research project focused on how to design and deliver a successful tutorial to assure the success of the intended instruction. In this case, the learners were nontraditional with a special interest in mind. They wanted to maintain their website after the initial build and to publish their site. Without planning for instruction, the tutorial would provide worthless knowledge and the user would be left with knowledge he/she cannot use from lack of a well-developed instruction on how to use the knowledge. For example: if a tutorial does not contain sequential steps which build on each previous step, the learner might learn how to insert a table and pictures onto a webpage although they lack the ability to insert a picture into a table to prevent object movement. Instructional development models provide for this framework. Two such models were explained in this paper.

My clients found the tutorial to be helpful because it was designed specifically for their use. I demonstrated the techniques in the tutorial that corresponded with the techniques needed to maintain the club's website. The sequential steps involved were

comprised of the actual building of their website. I was able to show how I placed the banner, tables, and pictures on their website with explicit instructions. I also gave detailed instructions of how to align, create hyperlinks from their pictures, and how to use the FTP application to load their webpages to the server. Positive feedback from my clients provided me with encouragement to consider enduring this challenge again in the future.

Based upon my experience with this group, future tutorials that I build will be project specific. This will allow the group to follow my steps in creating their website with a realistic view and understanding. By using small sequential steps the clients will be reassured of the simple techniques involved. Breaking the instruction into small steps will help to alleviate any anxiety or confusion drawn from viewing a complex website.

By following a well-established model, a developer will be guided through the process of building a successful tutorial learning instruction that will provide the learner the ease of gaining the intended knowledge and skills.

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Appendix A

1. What is the purpose of your web page?

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2. What kind of information do you want on your web page?

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3. How are you presently delivering information to the public?

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4. Who are the selected members that would be maintaining the Website?

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5. Are the selected members computer literate and do they have computers?

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6. Do the selected members live close to where a web development class might be an option?

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7. Does your club have sufficient funds to purchase web development application software?

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8. Would the selected members feel comfortable using a tutorial to guide them through a web development instruction?

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9. What technology equipment is currently being used?

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10. What application software is currently being used?
